

**REMARKS**

Claims 16 to 30 are now pending in the present application.

In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Claims 16 to 18, 22, 24, and 27 were objected to because of informalities.

Regarding claim 16, the Office Action asserts that no definition is given for the term “significantly higher.” It is respectfully submitted that one skilled in the art would understand that there are different regions in a semiconductor which have different dopant concentrations in relation to each other in this application. Accordingly, “the second layer includes a third sublayer having a third dopant concentration that is higher than the first dopant concentration and **significantly** higher than the second dopant concentration.” (See claim 1, emphasis added).

Thus, by using the phrase “significantly higher”, one skilled in the art would understand that there are different dopant concentrations in relation to one another. That is, “significantly” differentiates between the first dopant concentration and second dopant concentration in relation to the third sublayer dopant concentration. Therefore, the term “significantly higher” is sufficiently defined so that one skilled in the art would understand the difference in dopant concentrations in relation to one another, especially in view of the disclosure.

Regarding claim 22, the antecedent basis has been corrected as suggested.

Regarding claim 27, the Office Action asserts that that it is unclear to which sublayer the claim is referring to. Claim 27 has been rewritten to better clarify the claim. No new matter has been added. Therefore, withdrawal of the objections is respectfully requested.

Claims 16 to 19, 23, 24, and 26 to 29 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent no. 4,999,683 (the “Kiyomura” reference).

To reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (See *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the claimed subject matter of the claims, as discussed herein. (See *Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Office must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

The “Kiyomura” reference does not identically disclose (nor even suggest) the claim 16 feature which provides that “the third sublayer over a largest part of its cross-sectional area in the interior of the semiconductor system borders immediately on the first sublayer, while **bordering on the second sublayer only in a comparatively narrow edge region** of the cross-sectional area.” In this regard, quite the opposite is displayed in figure 2 of the “Kiyomura” reference. If one follows the assertion of the Office Action, namely, that 56 is the second sublayer of the second layer and 80 is the third sublayer of the second layer, then it is plain that the edge region of the asserted third layer is substantially larger with the second sublayer than with the asserted first sublayer. Furthermore, assuming that the “region to the left-most of substrate 40e” is the edge region, as asserted by the Office Action, then the third sublayer does not border the “edge region of the cross-sectional area”, as provided for in the context of the claimed subject matter. Therefore, the “Kiyomura” reference does not identically disclose (nor even suggest) all the features of the claimed subject matter. Accordingly, claim 16 and its dependent claims 17 to 19, 23, 24, and 26 are allowable. Withdrawal of the anticipation rejections is therefore respectfully requested.

Claims 27 to 29 include features like those of claim 16 and, are therefore allowable for essentially the same reasons as claim 16.

It is therefore respectfully submitted that claims 16 to 19, 23, 24, and 26 to 29 are allowable.

Claim 20 is rejected under 35 U.S.C. 103(a) as unpatentable over the combination of the “Kiyomura” reference in view of U.S. Application No. 2002/0127890 A1 (the “Andoh” reference).

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 20 depends from claim 16 and is therefore allowable for essentially the same reasons as claim 16, since the secondary reference does not cure -- and is not asserted to cure -- the critical deficiencies of the primary reference.

Claims 21 and 22 were rejected under 35 U.S.C. 103(a) as unpatentable over the combination of the “Kiyomura” reference in view of U.S. Patent No. 6,716,714 (the “Goebel” reference).

Claims 21 and 22 depend from claim 16 and are therefore allowable for essentially the same reasons as claim 16, since the secondary reference does not cure -- and is not asserted to cure -- the critical deficiencies of the primary reference.

Claim 25 was rejected under 35 U.S.C. 103(a) as unpatentable over the “Kiyomura” reference.

Claim 25 ultimately depends from claim 16 and is therefore allowable for essentially the same reasons as claim 16.

Claim 30 is rejected under 35 U.S.C. 103(a) as unpatentable over the “Kiyomura” reference.

Claim 30 depends from claim 29 and is therefore allowable for essentially the same reasons as claim 29.

Withdrawal of the obviousness rejections of claims 20 to 22, 25, and 30 is therefore respectfully requested.

Accordingly, claims 16 to 30 are allowable.

**CONCLUSION**

In view of the foregoing, it is respectfully submitted that all of claims 16 to 30 are allowable. It is therefore respectfully requested that the objections and rejections be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

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Respectfully submitted,

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